

Section Seven—Environmental Element

County growth and development trends present challenges to environmental conservation. The increased use of natural resources, air and water pollution, loss of agriculturally productive lands and decline of open space are examples of development consequences. The impact of development must be balanced to ensure protection of our environment.

The provisions of this element apply countywide. *Growing Smarter Plus* does not require environmental impact statements beyond those already required. Although the environmental element is optional, it has been adopted by the Board and thereby recognized as important to the health, safety and welfare of the community.

This Environmental Element includes analysis, policies and strategies to address any anticipated effects of the plan's elements and new development called for by the plan on air and water quality and natural resources.

The environmental element is composed of eight sections:

- Legislative Requirement
- Purpose
- Environmental Plan
- CAG Recommendations
- Policies and Priorities
- Environmental Actions
- State and Federal Environmental Laws
- Soils Types

7.1 Legislative Requirement

Arizona Revised Statutes, Title 11, Chapter 6, Article 1, specifies that a Comprehensive Plan must have an Environmental Element and states as follows:

An environmental planning element that contains analyses, policies and strategies to address anticipated effects, if any, of plan elements on air quality, water quality and natural resources associated with proposed development under the comprehensive plan. The policies and strategies to be developed under this element shall be designed to have countywide applicability and shall not require the production of an additional environmental impact statement or similar analysis beyond the requirements of state and federal law.

7.2 Purpose

The purpose of this Element is to assess and outline strategies to avoid, minimize and mitigate anticipated effects on environmental resources. Specific functions include:

- Ensure compliance with existing State and Federal Environmental Laws, Regulations, and Executive Orders.
- Recognize the value and condition of existing natural resources in the county and their ecological value.
- Determine the extent to which development activities are required to comply with the goals, objectives and policies contained within the Plan.
- Promote the use of natural resources in the county in a manner that provides for continued economic viability.
- Foster a sense of environmental stewardship between governmental agencies and private entities.

7.3 Environmental Plan

The Environmental Plan consists of five major categories including:

- Water Quality and Conservation
- Air Quality
- Noise and Light Pollution
- Solid Waste Disposal and Hazardous Materials
- Resources: Natural and Manmade
 - ◊ Agriculture
 - ◊ Silviculture
 - ◊ Cultural
 - ◊ Vegetation
 - ◊ Wildlife
 - ◊ Soils

7.3.a Water Quality and Conservation

The supply of water is a complex issue. Colorado River allocations, irrigation and drainage district water rights and the development of on-site wells are a few of these issues. Some areas of the county have ample water supplies while others experience deficiencies. Recognition of water resource availability and quality is a primary consideration in all land use decisions. Recognition is ensured through legislative mandates and the Major Amendment process to the Plan.

Water resources are discussed in detail in the water resources element of the ~~2020~~ **2030** Comprehensive Plan.

7.3.b Yuma 208 Plan

The Yuma County Water Quality Management Plan (Yuma 208 Plan) establishes strategies and processes to provide regional coordination for development of wastewater treatment facilities and efforts to protect water quality. The Yuma 208 Plan is essentially an agreement between Yuma County, entities operating wastewater utilities within the county, the Arizona Department of Environmental Quality (ADEQ) and the federal Environmental Protection Agency (EPA) about these strategies and processes. It is referred to as the Yuma 208 Plan because it fulfills water quality planning requirements established in Section 208 of the federal Clean Water Act. The purpose of this planning effort is to:

- Assure adequate wastewater facilities in Yuma County.
- Take advantage of economies of scale, treatment efficiencies, new and better treatment technology and conservation practices where possible.
- Identify and address water quality and wastewater issues.
- Improve effectiveness and efficiency of the Yuma 208 Plan consistency reviews.

The planning effort is designed to encourage and assure the development and maintenance of sufficient, efficient, cost effective, reliable and sustainable wastewater treatment and disposal systems. This plan includes strategies that encourage the use of resource conservation practices and address water quality problems from sources other than wastewater treatment and disposal.

Several federal and state regulations require that proposed wastewater facilities must be consistent with the Yuma 208 Plan. Wastewater facilities must be in compliance with these regulations; therefore, approval of new or expanding wastewater facilities is contingent on ADEQ determining the proposal is consistent.

According to state and federal regulations, the following actions can only be approved if ADEQ determines that the proposal would be consistent with the Yuma 208 Plan (consistency review):

- Build or expand a wastewater facility that discharges to surface water.
- Provide a grant or loan through the Water Infrastructure Finance Authority (WIFA).
- Build or expand a wastewater treatment facility or disposal system with combined flows over 24,000 gallons per day (gpd) or some facilities with flows between 3,000–24,000 gpd.

Regulations do not require 208 consistency reviews for on-site wastewater systems (e.g., septic systems) under 3,000 gpd on-site systems if combined flows would be under 24,000 gpd, collections systems and reclaimed water systems.

Ordinances Need to Fully Implement the Yuma County Water Quality Management Plan

Although federal and state regulations mandate that permits must be consistent with the Yuma County Water Quality Management Plan (the Yuma 208 Plan) and that the plan must address several types of water quality concerns, existing regulations do not provide adequate authority to implement some aspects of this plan. Thus additional ordinances adopted by Yuma County are needed to fully implement the 208 Plan. The Yuma 208 Plan identifies the following areas as needing the adoption of an ordinance.

Designated Management Agencies and Wastewater Management Utilities

Ordinances are needed to require a municipality to be approved as a designated management agency or for a privately-owned wastewater utility to be designated as a wastewater management utility (WMU) and require that they take on the responsibilities of a designated management agency or WMU outlined in this plan. Ordinances should indicate that these requirements must be met before approval of new or expanding wastewater facilities. Additional policies and procedures should be considered for coordinating approval of a WMU.

Rescinding Capacity Assurance

Currently, once wastewater treatment capacity assurance is given there is no way for such an assurance to be revoked. This has created problems when developments that have received capacity assurance fail to develop. Tying up allocated treatment capacity can force a treatment plant to operate below its capacity. Local legal authority and processes are needed for a municipality in Yuma County to rescind capacity assurance once given to a developer. State regulations require capacity assurance to be given; without clarification, the assurance is assumed by ADEQ to be an everlasting contract with the developer. There needs to be a mechanism to revoke such an assurance once it is evident that is not going to be used.

Wastewater Treatment Options Table

Additional local ordinances are needed requiring that on-site wastewater treatment facilities (e.g., septic systems and alternative systems with combined flows less than 24,000 gallons per day covered under APP General Permits and wastewater treatment collection systems) are consistent with the 208 Plan and the Wastewater Options Table that is contained within the 208 Plan.

Wastewater Master Plans

An ordinance is needed requiring development and adoption of wastewater master plans before approval of the new or expanding wastewater facilities when the wastewater entity would be functioning as a designated management agency or wastewater management utility. Wastewater master plans include details such as constructed capacity, operational flow, capacity assurance promised to developers, capacity assurance remaining, service area and planning area boundaries, sewer lines and collection systems.

Proposal Submission Requests

Impacts to Impaired Waters

An ordinance is needed requiring Yuma County to consider (during the permit review process) potential pollutant contributions to surface waters with total maximum daily loads (TMDL) or assessed by ADEQ as an “impaired” or “not attaining” standards, and contributions to an aquifer with wells that exceed Aquifer Water Quality Standards (e.g., nitrate standards or E. coli bacteria standards)

7.3.c Air Quality

Air pollution can cause human respiratory problems and a decrease in agricultural crop productivity. Increased levels of air pollution throughout the county result in health problems such as asthma, tuberculosis and valley fever. The principal sources of air pollutants are industrial releases, agricultural operations, crop burning, aircraft, ground transportation vehicles and proximity to the collective air basin adjacent to Mexico according to the Yuma Metropolitan Planning Organization (YMPO) regional transportation plan.

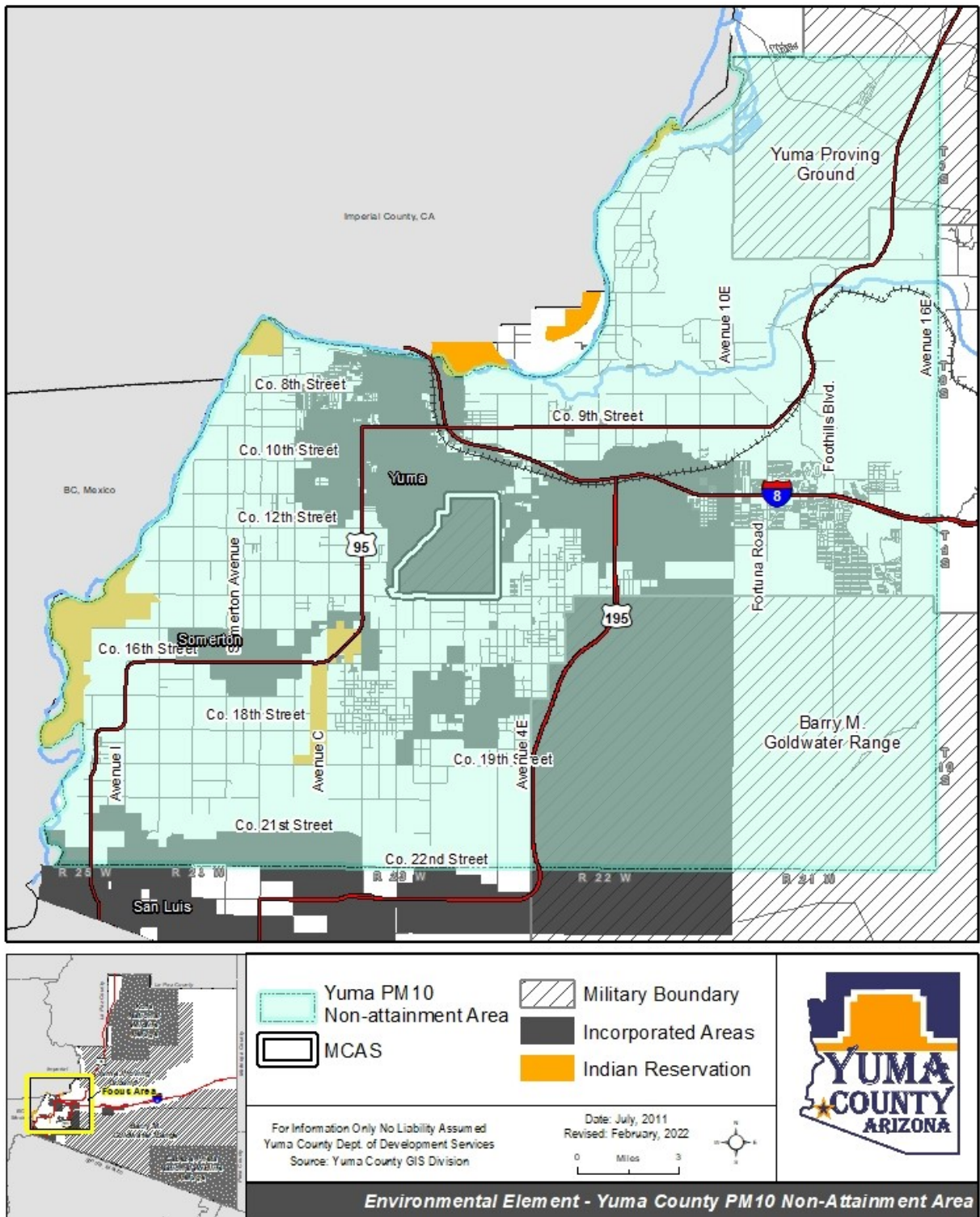
(Refer to Map 1) based on estimated ambient total suspended particulate data from the mid-1980's. In 2021, the EPA proposed to rescind Yuma County's Clean Data Determination and called for updating the State Implementation Plan (SIP) due to exceedances that occurred between 2017 and 2019. Arizona Department of Environmental Quality (ADEQ) is preparing a SIP including reasonably available control measures (RACM) to address PM10 as a means to reach attainment with the Clean Air Act.

A non-attainment area is a geographic area in which the level of air pollutant is higher than the level allowed by federal standards. A single geographic area may have acceptable levels of one criteria air pollutant but unacceptable levels of one or more other criteria air pollutants; thus, an area can be both attainment and non-attainment at the same time. If an area is in non-attainment, a plan would need to be developed to ensure compliance with the Clean Air Act.

Programs to require paved roads and parking lots in association with new development will address significant air quality concerns associated with particulate matter. Land use planning that encourages mixed use and planned development may result in fewer automobile trips which will reduce vehicle emissions. Circulation Element policies to encourage walking, bicycling and transit use also can result in lower automobile emissions.

7.3.d Noise Pollution

Noise is a source of pollution that can be a public health hazard. Its effects on humans and wildlife can include various physical and psychological impacts. Public complaints concerning noise levels have paralleled county growth. Residential areas, schools, libraries, hospitals, assisted living facilities and recreational areas are all noise sensitive. Implementation of noise control by isolation or suppression and shielding should be considered in planning for new developments.



Map 1

7.3.e Light Pollution

Light pollution can be eliminated by conserving energy, reducing glare and light trespass. Light pollution obscures the stars in the night sky, disrupts ecosystems and has an adverse health effects. The method for best reducing light pollution depends on exactly what the problem is in any given instance. Possible solutions include:

- Improve light fixtures, so that they direct their light more accurately towards where it is needed
- Utilizing light sources of minimum intensity necessary to accomplish the light's purpose
- Turning lights off using a timer or occupancy sensor or manually when not needed

7.3.f Solid Waste Disposal

Solid waste is disposed at the Copper Mountain and South Yuma County Landfills. The county operates four solid waste transfer stations located in North Gila Valley, Wellton, Tacna and Dateland (Refer to Map 2). These sites only accept residential solid waste. Commercial and industrial solid waste disposal occurs through private providers. Local governments provide solid waste pickup within incorporated limits. There are several recycling businesses in operation, but currently there are no local government programs in place promoting the activity.

County Waste Management Issues:

- Need for additional waste transfer stations in the rural areas
- Desert Dumping Dilemma - illegal disposal of solid waste and sewage on public and private lands
- Transfer sites do not accept hazardous substances or refrigerants
- No facilities are available to accept medical wastes
- Financial operation costs for transfer sites, site safety and staffing
- Fiscal management and capacity of transfer stations
- Need for community clean up days
- Assure that landfills meet federal, state and local environmental laws
- Need for recycling programs

7.3.g Hazardous Materials

The existence of hazardous materials in facilities and in transport throughout Yuma County creates the potential for a catastrophic toxic release hazard to the population. The potential of a hazardous materials transportation incident that may require protection and/or evacuation of citizens at any location within Yuma County exists. Hazardous materials may enter and contaminate water supplies, irrigation and sewage systems necessitating the shutdown of such facilities until decontamination procedures can be implemented. Yuma County is in a high earthquake risk area. Any locally occurring earthquake of sufficient magnitude to cause structural damage could affect all fixed-site hazardous materials facilities resulting in multiple releases and catastrophic response problems.

Hazardous materials move in and through Yuma County by truck, rail and air. There are no areas restricted from hazardous cargo transportation for this reason any of the roadways crisscrossing the County may be considered a potential HAZMAT route.

The Local Emergency Planning Committee (LEPC) is responsible for the development and maintenance of the Hazardous Material Emergency Response and Recovery Plan in Yuma County. This plan provides guidance to local municipalities and the unincorporated areas in response to an incident/accident involving hazardous materials in general.

7.3.h Resources: Natural and Manmade

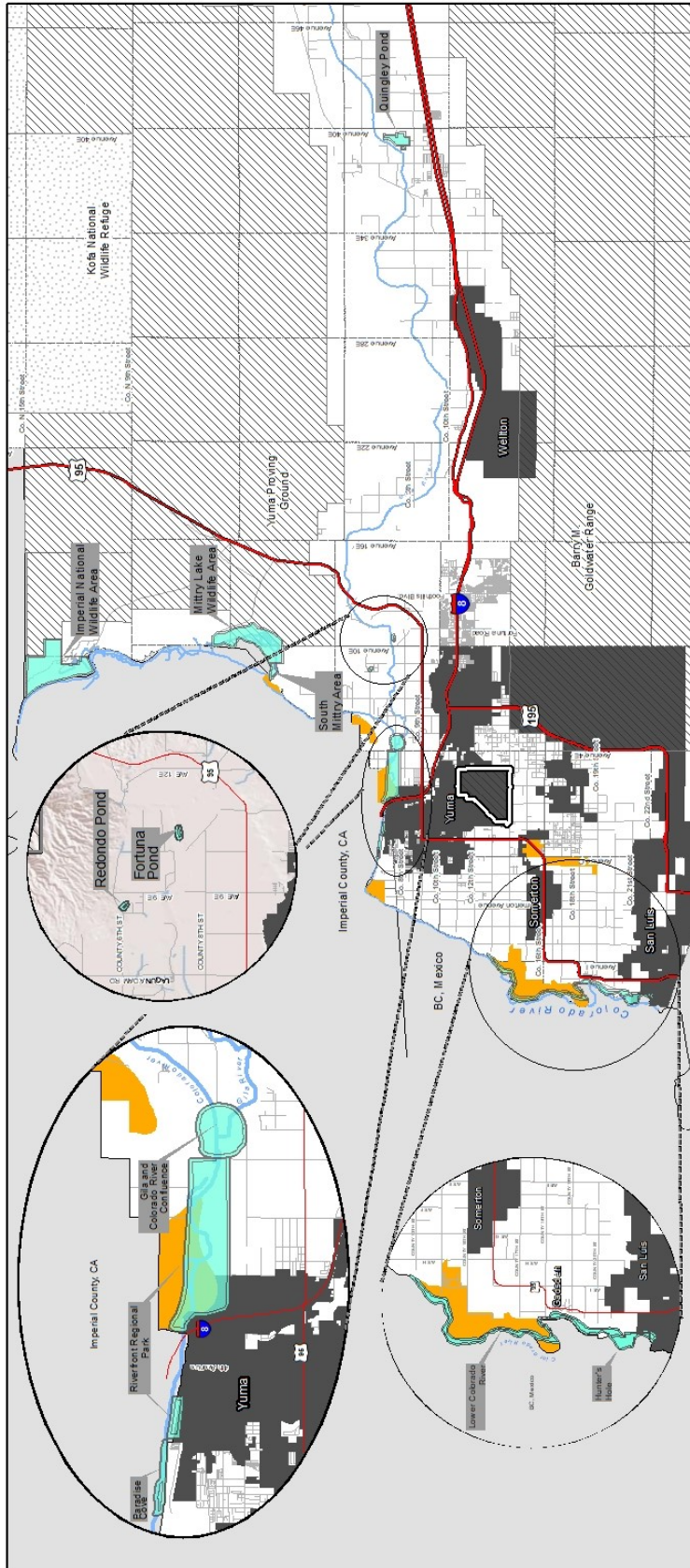
Natural resources such as land, water, soil, plants and animals affect the quality of life for both present and future generations.







Agricultural Resources - Each year agricultural land is converted into other uses. The continuing trend has significant environmental impacts on residents and wildlife. Core issues and protective measures are listed below:

1. Residue from agricultural chemicals may infiltrate into the aquifer supply and/or well water used by homeowners.
2. Development located adjacent to farms may be subject to fertilizers and pesticides that can cause respiratory ailments. A.R.S. §3-365 regulates application of pesticides close to developed or occupied areas. This law is enforced by Yuma County Public Health Services District.
3. Confined animal operations pose threats to water tables and air quality. The Arizona Department of Agriculture, ADEQ and EPA issue permits and monitor related issues for confined animal feeding operations.
4. Sheep and cattle grazing may conflict with traffic, deplete vegetative cover, cause soil loss and result in watershed contamination. There are eight countywide State Land Department cattle grazing leases representing 35,007 permitted acres.
5. Loss of scenic or visual values from the reduction of farmlands is an issue.
6. Urbanization of land is reducing plant and wildlife habitat.

Silviculture Areas - Silviculture areas refer to lands dedicated to the growing and cultivation of trees, primarily areas adjacent to the Colorado and Gila River Corridors. These lands are riparian habitats and silviculture containing unique wildlife species. The riparian areas have been depleted through changes of the timing, magnitude and extent of natural water delivery, deforestation, invasive species, development, mining, and harvesting. The result is erosion, high sedimentation build-up and a decrease in water quality. There is a concerted effort by local governments, tribes, state and federal agencies to restore native habitats and wildlife populations along the river corridors to the Mexico border (Map 3). Specific plans dealing with restoration are listed in Table 1.

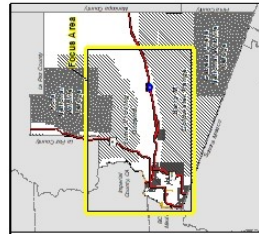
Urbanization of the Sonora Desert and Colorado and Gila Rivers has affected the habitats and viability of many local species. Implementation of mitigation measures in response to urban development should take into account the effect on the natural environment.



 Habitat Restoration Areas
 Incorporated Areas
 U.S. Marine Corps
 Military Boundary
 National Wildlife Refuge
 Indian Reservation

For Information Only No Liability Assumed
Yuma County Dept. of Development Services
Source: Yuma County GIS Division

Date: June, 2011
Revised: February, 2022



Yuma County 2030 Comprehensive Plan

Table 1 Habitat Restoration Project Areas in Yuma County

Project Area	Acreage/Miles	Responsible Agency
Imperial National Wildlife Area	5,599 acres	U.S. Fish and Wildlife Service
Lower Colorado River (<i>Multi-Species Conservation Program</i>)	62 miles	Bureau of Reclamation (BOR) (Multi-Species Management Team)
Quigley-Achee Wildlife Area	40 acres	Arizona Game and Fish Department
Riverfront Regional Park (<i>East Wetlands, Riverfront Development and West Wetlands</i>)	7 miles (1,532 acres)	City of Yuma
Hunter's Hole	99.97 acres	BOR
Cocopah West Reservation Plan (<i>Lower Colorado River</i>)	12 miles	Cocopah Indian Nation
Paradise Cove	68 miles	Bureau of Land Management (BLM)
Gila and Colorado River Confluence	29 acres	BLM
Fortuna Pond	25 acres	BOR, BLM, AGFD
Redondo Pond	5 acres	BLM, AGFD
Mittry Lake Wildlife Area	475 acres	BLM, AGFD, BOR
South Mittry Area	75 acres	BLM, AGFD, BOR

Cultural Resources - There are numerous culturally sensitive sites threatened by new development, vandalism, neglect and overuse. The five major contributing sources of ground disturbance in the county that damage cultural resources are urbanization, agriculture, deforestation, mining, road construction and reclamation projects. There is concerted interagency effort to preserve sites outside of the city of Yuma. Preservation efforts in the past have been through individuals, non-profit corporations, local government and individual state and federal agencies.

Yuma County has a rich history as an area of transportation crossroads, mining, agriculture and military development. These activities have left archeological and historical sites throughout the county. There are 60 historic properties listed on the National Park Service's National Register of Historic Properties. For example, El Camino del Diablo Trail was established as a National Byway and the Juan Bautista de Anza Trail and the Mormon Battalion Trail have been established as National Historic Trails and maintained by the National Park Service. These cultural and trail resources are also protected by the Arizona State Historic Preservation Office through their Stewardship Program.

The Yuma Chapter of the Arizona Historical Society also maintains a list of historically significant sites. These sites are related to engineering, agricultural and World War II desert training activities. They are also possible candidates for the National Register of Historic Properties. Management of legally protected cultural and historical resources has been largely a function of land ownership. The Bureau of Land Management (BLM), Bureau of Reclamation (BOR), Imperial National Wildlife Refuge, Kofa National Wildlife Refuge and Cabeza Prieta National Wildlife Refuge all maintain lists of archeologically and historically significant sites on the federal lands they control. These lists are confidential for protection of the integrity of the sites. The U.S. Army Yuma Proving Ground and the Barry M. Goldwater Range have conducted surveys of cultural resources on their properties and developed Historic and Archeological Resources Protection Plans. The degree of protection of cultural sites within the county are listed below:

- **Highest Protection:** Cultural resources on federally owned lands: BLM, BOR, U.S. Army; U.S. Marine Corps, and U.S. Fish and Wildlife Service have the highest protection of any lands. Arizona State Parks: Yuma Territorial Prison and Yuma Crossing.
- **Lower Protection:** Cultural resources on State Lands are less protected. The mission of the State Land Department is to dispose of lands for the "highest and best use" to gain revenue for the State Trust beneficiaries.
- **Little or No Protection:** Cultural resources on private lands are not protected by law except those that are currently on or candidates for the National Register of Historic Places.
- **Protection levels by local jurisdiction:** The County has never instituted cultural resource requirements in the Yuma County Comprehensive Plan or Zoning Ordinance. The City of Yuma is the only local government with a Historic Preservation Ordinance. The Ordinance covers the preservation of historical buildings within the corporate limits of the city. The cities of Somerton and San Luis have no preservation laws. Further, they do not consider cultural resources preservation in their development review process.

The County needs to be an advocate and work cooperatively in identifying, developing, and protecting the culturally significant sites in the County. The county could take a pro-active role in assisting individuals, non-profit historic preservation organizations and government agencies concerning the preservation efforts of Yuma County's historical treasures.

Environmental Element

- **Natural Conditions and Mitigation Measures:** Natural conditions are constantly being influenced, changed or controlled by human intervention. In planning for development, impacts to and from natural causes should be considered. This section looks at the natural conditions that may affect new development.
- **Environmental Land Use Designations:** The County's diverse land ownership and environment has resulted in large tracts of lands with significant natural resource conservation value. Designated open space, wilderness, wildlife refuge, State land and special management areas all have limitations on use and public access. Map 4 illustrates areas designated wilderness, habitat management and ownership patterns of these areas.

Lands classified in the County as Open Space and Recreational Resources and Sensitive Areas and Resource Lands are listed in more detail in other elements of the Plan.

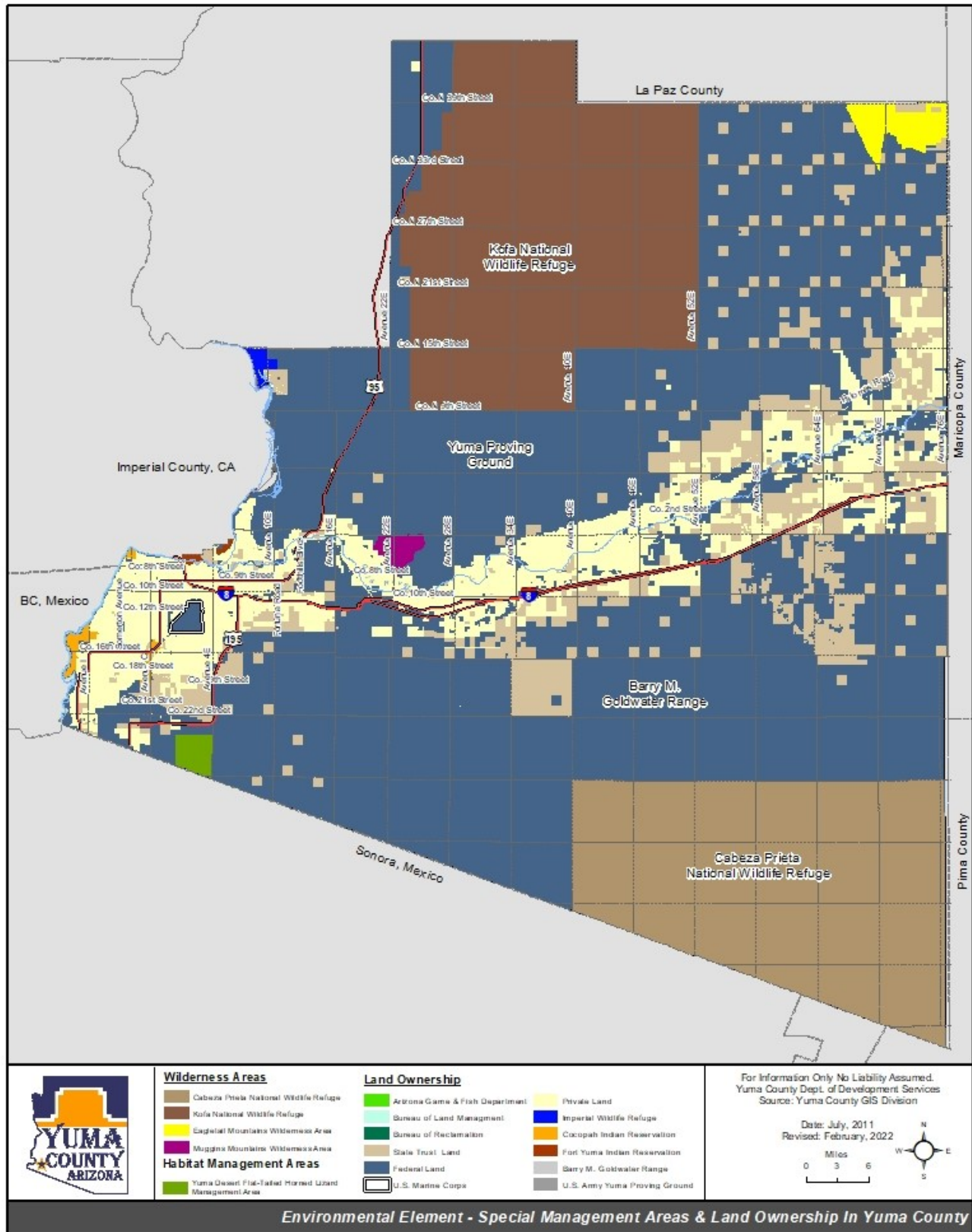
- **Geological Resources and Hazards:** Many geological features characterize the county. These include rugged mountains, sediment-filled basins, dissected and undissected alluvial slopes, river terraces, mesas, sand dunes and river valleys. Furthermore, are located within the region major fault lines including the San Andreas, Imperial, Cerro Prieto and Algodones faults.

The seismic hazard in the Yuma region is considered the greatest in Arizona. There is the potential for severe earthquake damage because the valleys are made of alluvial soils, have high water tables and are subsequently prone to liquefaction during seismic events. Significant damage to residential, commercial and industrial facilities could occur as a result of earthquakes measuring a magnitude of 5.0 or greater. Mitigation measures include adopting building standards from the 2003 Uniform Building Code and Earthquake Hazard Evaluation criteria.

Biological Resources:

Vegetation - Since the county is within the Sonoran Desert physiographic province, Yuma County is home to a variety of unique Colorado River and Arizona Uplands plant communities. Continued development is diminishing the native Sonoran desert plants and wetland species and increasing the number of invasive weed species. Vegetation on the Endangered Species Act list contains only "Species of Concern" that include Dune Spurge, Gander's Cryptantha, Dune Sunflower and Sand Food. There are no plants listed as threatened and endangered (Table 2).

Arizona Native Plant Law (A.R.S. §3-901 *et. seq.*) protects and regulates the collection and salvaging of native plants and parts of plants including seeds and fruit located on state and federal lands. Private property owners are not affected by the law unless the plants are to be transported or sold. The demand for desert landscaping in new developments has resulted in the illegal harvesting of cacti causing loss of soils and habitat.



Map 4

Environmental Element

Noxious weeds have direct and indirect economic consequences. Weeds can affect agriculture, urban environment, fish and wildlife habitat, recreational values and can cause human health concerns. A noxious weed list prohibits transport of weed species without state or federal permits (A.R.S. §3-232, 7 United State Code 2803 and 2809). Currently, an invasive aquatic fern, Giant Salvinia, has invaded the Lower Colorado River. Efforts by a consortium of state and federal agencies to eradicate the plant are being made before severe economic and ecological problems occur.

Wildlife - The County is home to a diverse wildlife ranging from big game to reptiles and amphibians. The Endangered Species Act (ESA) lists candidate threatened and endangered species that are found in the county. Included on the list are the *Sonoran Pronghorn*, the *Yuma Ridgeway's rail*, the Southwestern Willow Flycatcher, the Razor Back Sucker, the *Sonoran Desert tortoise and the yellow-billed cuckoo*. The Arizona Game and Fish Department Special Status Species list also documents species that are of "concern" but do not have official status as an Endangered Species (Table 2).

Wildlife and habitat management in the county is a cooperative effort. Arizona Revised Statutes Title 17 directs the responsibility for maintaining and managing the State's wildlife resources to the Arizona Game and Fish Commission and Department. Local organizations, farmers, irrigation districts, the Bureaus of Land Management and Reclamation, the Cocopah Indian Tribe, Marine Corps Air Station-Yuma, U.S. Army Yuma Proving Ground, city of Yuma and the U.S. Fish and Wildlife Service all contribute measures and resources to develop and implement associated management plans for natural resources conservation.

The Arizona Game and Fish Department has identified important habitat areas for the Flat-tailed Horned Lizard, Big Horn Sheep, Sonoran Pronghorn Antelope and Sonoran Desert Tortoise within the Barry M. Goldwater Range, U.S. Army Yuma Proving Ground and on other public and state-owned lands.

Similar to the diminishing vegetative habitat, continued development also stresses wildlife habitat and displaces species. As a result, wildlife species are occurring more commonly in residential areas and subdivisions.

Soils - The U.S. Department of Natural Resource Conservation Service conducted soil surveys from 1972-1977 that identified 34 soil types in the County (see soils types Section 7.8). Soil types are an important factor in determining land use limitations and site suitability. Identifying soil conditions before development is important. Problems associated with unsuitable soil include infrastructure, foundations displacement and decomposition conditions.

Arizona Game and Fish Department **Special Status Species List for Yuma County**

TAXON	SCIENTIFIC NAME	COMMON NAME
AMPHIBIAN	<i>Rana yavapaiensis</i>	Lowland Leopard Frog
BIRD	<i>Ardea alba</i>	Great Egret
BIRD	<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl
BIRD	<i>Coccyzus americanus</i>	Yellow-billed Cuckoo (Western U.S. DPS)
BIRD	<i>Egretta thula</i>	Snowy Egret
BIRD	<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher
BIRD	<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy-owl
BIRD	<i>Haliaeetus leucocephalus</i>	Bald Eagle - Winter Population
BIRD	<i>Ixobrychus exilis</i>	Least Bittern
BIRD	<i>Lanius ludovicianus</i>	Loggerhead Shrike
BIRD	<i>Laterallus jamaicensis coturniculus</i>	California Black Rail
BIRD	<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail
FISH	<i>Xyrauchen texanus</i>	Razorback Sucker
MAMMAL	<i>Antilocapra americana sonoriensis</i>	Sonoran Pronghorn
MAMMAL	<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's Big-eared Bat
MAMMAL	<i>Euderma maculatum</i>	Spotted Bat
MAMMAL	<i>Eumops perotis californicus</i>	Greater Western Bonneted Bat
MAMMAL	<i>Lasiurus xanthinus</i>	Western Yellow Bat
MAMMAL	<i>Leptonycteris curasoae yerbabuenae</i>	Lesser Long-nosed Bat
MAMMAL	<i>Macrotus californicus</i>	California Leaf-nosed Bat
MAMMAL	<i>Myotis yumanensis</i>	Yuma Myotis
MAMMAL	<i>Nyctinomops femorosaccus</i>	Pocketed Free-tailed Bat
MAMMAL	<i>Sigmodon hispidus eremicus</i>	Yuma Hispid Cotton Rat
PLANT	<i>Allium parishii</i>	Parish Onion
PLANT	<i>Berberis harrisoniana</i>	Kofa Mt Barberry
PLANT	<i>Cryptantha ganderi</i>	Gander's Cryptantha
PLANT	<i>Echinocactus polycephalus</i> var. <i>polycephalus</i>	Clustered Barrel Cactus
PLANT	<i>Euphorbia platysperma</i>	Dune Spurge
PLANT	<i>Ferocactus cylindraceus</i>	Desert Barrel Cactus
PLANT	<i>Helianthus niveus</i> ssp. <i>tephrodes</i>	Dune Sunflower
PLANT	<i>Lophocereus schottii</i>	Senita
PLANT	<i>Opuntia echinocarpa</i>	Straw-top Cholla
PLANT	<i>Pholisma sonorae</i>	Sand Food
PLANT	<i>Rhus kearneyi</i>	Kearney Sumac

Table 2

Environmental Element

TAXON	SCIENTIFIC NAME	COMMON NAME
PLANT	Stephanomeria schottii	Schott Wire Lettuce
PLANT	Triteleiopsis palmeri	Blue Sand Lily
PLANT	Washingtonia filifera	California Fan Palm
REPTILE	Gopherus agassizii (Sonoran Population)	Sonoran Desert Tortoise
REPTILE	Heloderma suspectum cinctum	Banded Gila Monster
REPTILE	Lichanura trivirgata gracia	Desert Rosy Boa
REPTILE	Phrynosoma mcallii	Flat-tailed Horned Lizard
REPTILE	Sauromalus ater (Arizona Population)	Arizona Chuckwalla
REPTILE	Uma rufopunctata	Yuman Desert Fringe-toed Lizard

Table 2

7.4 CAG Recommendations

Citizen Advisory Groups (CAGs) were asked to identify the most important environmental issues of concern in the county.

The CAG participants developed the following recommendations for minimizing or mitigating the adverse impacts caused by the aforementioned environmental issues.

Hydrology (Water Quality)

- Collaborate with local, state and federal agencies on ecological concerns to protect watersheds.
- Coordinate with local water companies to ensure good residential water quality.

Hydrology (Water Quantity)

- Protect and monitor the water allocations for future growth in the county.
- Institute water conservation practices.

Agriculture (Loss of Prime and Unique Farmland)

- Plan to protect farmland from urban encroachment.
- Provide incentive programs for farmers to retain farmlands.

Air Quality

- Plan for monitoring and control of air pollution emissions.
- Enforce monitoring, maintenance and enforcement of EPA and ADEQ-Quality Division Best Management Practices countywide to reduce PM-10 emissions.

Hazardous Wastes and Disposal

- Provide for waste transfer sites for residents throughout the county.
- Plan and provide for affordable dumping of hazardous materials.
- Plan, develop programs and educate the public on recycling.
- Create community clean up days for specific areas.
- Create Programs to prevent illegal dumping.

Supplemental Materials - For a more in-depth analysis and understanding of the Planning Areas, refer to the *Background Studies and CAG Reports* for each Planning Area. These documents were developed and published by the Planning Section of the Yuma County Department of Development Services. The documents are available on the Yuma County website.

7.5 Environmental Policies and Priorities

- EPP.1:** Encourage land uses and development designs that are compatible with environmentally sensitive areas such as parks, open space, floodplains, hillsides, habitat for sensitive plant and wildlife species, scenic areas, washes and unstable geologic and soil conditions.
- EPP.2:** Encourage low density land uses around federal and state owned lands.
- EPP.3:** Encourage the protection and preservation of existing habitat areas for threatened or endangered plant and wildlife species.
- EPP.4:** Encourage consideration of the natural environment during the review of new development projects including options for the preservation of the native vegetation, wildlife and washes.
- EPP.5:** Implement a solid waste program that advocates solid waste reduction, reuse and recycling.
- EPP.6:** Encourage nighttime lighting be kept to a minimum to maintain the dark sky.
- EPP.7:** Encourage the preservation of the scenic quality and vistas of all mountain ranges in the county.
- EPP.8:** Encourage development to retain washes in their natural state.
- EPP.9:** Encourage the enforcement of measures necessary to maintain and improve the existing national ambient air quality standards and the reduction of dust pollution.
- EPP.10:** Protect air quality during plan reviews for new industrial, commercial and residential projects in compliance with county, state and federal air quality plans and standards.
- EPP.11:** Encourage the paving of unpaved roads where dust pollution affects residents and the environment and is in violation of the state and federal air quality standards.
- EPP.12:** Encourage all new development to provide paved streets, roads and parking lots designed and constructed to Yuma County standards.
- EPP.13:** Discourage development and roads in severe erosion and landslide hazard areas.
- EPP.14:** Encourage the protection of cultural sites which meet national, state or local criteria for historic designation from destruction or harmful alteration.
- EPP.15:** Encourage the preservation of significant cultural and archaeological resources within all developments.
- EPP.16:** Encourage the coordination of noise and nuisance control programs and standards with local, state and federal agencies.
- EPP.17:** Consider noise impacts from roadways, rail corridors and industry for new residential development.
- EPP.18:** Involve the Airport Authority to minimize potential conflicts between residential development and airport operations.

7.6 Environmental Actions

- EA.1:** Work with existing recycling companies to determine the feasibility of a pilot recycling program.
- EA.2:** Work with the State Historic Preservation Office, Arizona Site Steward Program and Arizona Archeological Society to inventory and develop a program to manage cultural resources.
- EA.3:** Develop and/or maintain environmental overlay map(s) and information materials that identify natural floodplains, geological and soil risk areas.
- EA.4:** Develop a natural resource impact checklist to assess potential negative and positive impacts from development and recommend mitigation measures.
- EA.5:** Serve as a resource and liaison in supporting regional water resource and watershed planning.
- EA.6:** Create maps of major infrastructure for emergency response teams.
- EA.7:** Update the Yuma County Zoning Ordinance to regulate and promote sensible lighting that reduces light pollution in Yuma County.
- EA.8:** Modify illegal dumping laws to reduce violations and to increase penalties.

7.7 State and Federal Environmental Laws

Arizona State Laws:

Water Resources

Chapter 7 Article 2 Determining Navigability A.R.S. §37-1121-1128,1129.16
Chapter 1 Article 4 Public Nature and Use of Surface Water A.R.S. §45-141
Chapter 1 Article 5 Appropriation of Water A.R.S. §45-151-166
Chapter 1 Article 6 Rights to Water A.R.S. §45-171-175
Chapter 1 Article 7 Water Rights Registration A.R.S. §45-181-190
Chapter 1 Article 8 Reservoirs and Canals A.R.S. §45-201-206
Chapter 1 Article 9 General Adjudication of Water Rights A.R.S. §45-251-264
Chapter 2 Article 4 Groundwater Rights and Uses in General A.R.S. §45-453-455
Chapter 2 Article 7 Groundwater Withdrawal Permits A.R.S. §45-511-528
Chapter 7 Article 2 Colorado River Compact A.R.S. §45-1321
Chapter 8 Article 1 Flood Control Cooperation by Counties, Cities, and Towns with Federal Government A.R.S. §45-1401-1403
Chapter 8 Article 2 Special Laws Pertaining to Particular Municipalities A.R.S. §45-1422
Chapter 8 Article 4 Alternative Assistance A.R.S. §45-1471-1473
Chapter 10 Article 1 State Water and Power Plan A.R.S. §45-1701-1722
Chapter 2 Articles 1-12 Water Quality Control A.R.S. §49-201-391

Agricultural Resources

Chapter 1 Article 2 Agriculture Protection Act A.R.S. §3-111-113
Chapter 2 Article 3 Fertilizer Materials A.R.S. §3-260-384
Chapter 2 Article 5 Pesticides A.R.S. §3-340-356
Chapter 2 Article 6 Pesticide Control A.R.S. §3-360-383
Chapter 4 Article 7 Dairies and Dairying A.R.S. §3-600-634
Chapter 11 Article 9 Beef Cattle Feed Lots A.R.S. §3-1451-1457
Chapter 14 Article 1 Predatory Animals and Rodents A.R.S. §3-2400-2406
Chapter 16 Article 1 Aquaculture A.R.S. §3-2900-2913

Air Quality

Chapter 3 Article 3 County Air Pollution Control A.R.S. §49-471-593

Solid Waste Disposal

Chapter 4 Articles 2-9 Solid Waste Management A.R.S. §49-701-881
Chapter 6 Articles 1 & 2 Public Health Control A.R.S. §36-600-631

Hazardous Waste

Chapter 5 Articles 1-4 Hazardous Waste Disposal A.R.S. §49-901-973

Noise Environment

- Chapter 25 Article 7 Planning and Zoning; Military Airport Operation Compatibility A.R.S. §28-8481
- Chapter 25 Article 7 Incorporation of Sound Attenuation Standards in Building codes A.R.S. §28-8482
- Chapter 25 Article 7 Airport Influence Areas; Notice A.R.S. §28-8485

Renewable Energy

- Chapter 4 Article 6.1 Municipal Zoning Regulations; Public Hearing; Definitions A.R.S. §9-462.
- Chapter 6 Article 2 County Planning and Zoning definitions A.R.S. §11-821
- Chapter 1 Article 2 Acquisition and Encouragement of Development of Electric Power A.R.S. §30-121
- Chapter 4 Article 3 Restrictions on Installation or Use of Solar Energy Devices Invalid; Exception A.R.S. §33-439
- Chapter 10 Article 1 General Provisions Department Powers and Duties A.R.S. §41-1504
- Chapter 11 Article 11 Solar Energy Devices Definitions A.R.S. 44-1761
- Chapter 10 Article 5 Credit for Solar Energy Devices A.R.S. §43-1083

Silvicultural Areas

- Chapter 2.1 Article 1 State Forester A.R.S. §37-621-623.02

Biological Resources

- Chapter 2-Article 1 Dangerous Plants, Pests and Diseases A.R.S. §3-200-218
- Chapter 4 Article 1 Restoration Projects A.R.S. §17-401-407
- Chapter 7-Article 1 Arizona Native Plant Law A.R.S. §3-900-934
- Chapter 1 Article 1 Definitions and Authority of State A.R.S. §17-101-105
- Chapter 1 Article 3 Powers and Duties A.R.S. §17-231-247
- Chapter 4 Article 1 Restoration Projects A.R.S. §17-401-407
- Chapter 4 Article 2 Fish Hatching and Fish Culture A.R.S. §17-421
- Chapter 4 Article 3 Wildlife Habitat Protection A.R.S. §17-451-458

Soils

- Chapter 6 Article 2 Division of Natural Resource Conservation A.R.S. §37-1011-1015
- Chapter 6 Article 4 Administration limitation of Powers A.R.S. §37-1055
- Chapter 6 Article 4 Cooperation by State Agencies A.R.S. §37-1057

Geological Hazards

- Chapter 1 Article 2 Mines and Mineral Resources A.R.S. § 27-129, 131 & 318
- Chapter 2 Articles 1-3 Emergency Management Planning and Community Right to Know Act A.R.S. § 26-300-352

Cultural Resources

Chapter 3 Article 1 Arizona State Parks Board Heritage Fund A.R.S. §41-501-504
Chapter 3 Article 1.1 Arizona State Parks Board A.R.S. §41-511-511.24
Chapter 3 Article 1.2 Arizona Outdoor Recreation Coordinating Commission A.R.S. §41-511.25
Chapter 3 Article 1.3 Establishment of Parkways and Historical and Scenic Roadways A.R.S. §41-511.26
Chapter 4.1 Article 1 Arizona Historical Society A.R.S. §41-821-826
Chapter 4.1 Article 4 Archeological Discoveries A.R.S. §41-841-847
Chapter 4.2 Article 1 Historic Preservation General Provisions A.R.S. §41-861-866
Chapter 4.3 Article 1 Neighborhood Preservation General Provisions A.R.S. §41-885-892

Environmental Land Use Designations

Chapter 2 Articles 1-7 Administration of State and other Public Lands A.R.S. §37-100-1156

Federal Laws:

Water Resources

Clean Water Act (CWA), 33 U.S. Code §1251 et seq. (1977): The law provides for cooperation of the federal government with other federal, state and local entities to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and subsurface waters. The plans include the necessary improvements necessary to conserve waters for public water supplies, propagation of fish and aquatic life, recreational purposes and agricultural and industrial uses. The law was amended to provide for additional water quality programs, standards and procedures to govern allowable discharges, funding for construction grants or general program funding.

Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500): Law stipulates broad national objectives to restore and maintain the chemical, physical and biological integrity of the Nation's waters (33 U.S. Code). In addition, amendments expanded provisions related to pollutant discharges. These provisions include requirements that limitations be determined for point sources which are consistent with state water quality standards, procedures for state issuance of water quality standards, development of guidelines to identify and evaluate the extent of nonpoint source pollution, water quality inventory requirements and development of toxic and pretreatment standards (33 U.S. Code §1311-1313 and 33 U.S.C. §1315-1317).

Safe Drinking Water Act (SDWA), 42 U.S. Code 300f et seq. (1974): The Act directed the Environmental Protection Agency (EPA) to protect public health by regulating the nation's public drinking water supply systems. Amended in 1986 and 1996 the law requires actions to protect drinking water and its sources: rivers, reservoirs, springs and groundwater wells. It also authorized the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. It requires that the EPA, states and water systems work together to make sure that these standards are met.

Water Quality Act of 1987 (Public Law 100-4) provided most recent series of amendments to the original Clean Water Act. Some of the provisions included are: Requirement that States develop strategies for toxics cleanup in water where the application of "Best Available Technology (BAT) discharge standards is not sufficient to meet state water quality standards and support public health (33 U.S. Code); increase in the penalties for violations of section 404 permits (33 U.S. Code §1344).; provisions that additional state reporting requirements on water quality of lakes including methods to mitigate the harmful effects of high acidity (33 U.S. Code §1324); Establishment of a program for states to develop and implement, on a watershed basis, nonpoint source management and control programs (33 U.S.Code).

Wild and Scenic Rivers Act (Public Law 90-542) Oct. 2, 1968, 82 stat. 906 and as amended: The Act established a National Wild and Scenic Rivers System and prescribes the methods and standards through which additional rivers may be identified and added to the system.

Executive Order 11990, Protection of Wetlands, May 24,1977, 44 Federal Register 1955: Directs all agencies to lead and implement action to minimize the destruction, loss or degradation of wetlands according to the NEPA. The order covers aspects of federal actions or federally funded actions affecting wetlands, including land management, facilities development and licensing regulations. In carrying out any activities affecting wetlands, federal agencies or recipients of federal project funding must consider such factors as public health, safety and welfare, including such things as water supply and quality, recharge and discharge areas for ground water, pollution, etc.

Agriculture

Farmland Protection Policy Act, (FPPA) (Public Law No. 97-98) U.S. Code §4201(1996): The purpose of the law is to minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses. The Act also stipulates that federal programs be compatible with state, local and private efforts to protect farmland.

Air Quality

Clean Air Act (CAA), 84-159 (Air Pollution Control Act: July 1955), 42 U.S. Code §7401 et seq. (1970): The primary objective of the Clean Air Act is to establish National Ambient Air Quality Standards (NAAQS) for various pollutants from area, stationary and mobile sources to protect public health and the environment. To provide for the regulation of polluting emissions via state implementation plans. The amendments are designed to prevent significant deterioration in certain areas where air quality exceeds national standards, and to provide for improved air quality in areas which do not meet Federal standards ("nonattainment" areas").

Hazardous Materials & Waste Management

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 42 USC §9601 *et seq.*; as amended by Superfund Amendments and Reauthorization Act (SARA), (Public Law 99-499) October 17, 1986: Established a comprehensive system to react to releases of hazardous substances, conduct assessments and to determine liability and compensation for those affected natural resources. Established the Superfund monies for remediation or removal actions for the release of hazardous substances causing damage and injury to, destruction of or loss of natural resource damages. Maintains the National Priorities List (NPL) characterization studies and other projects to address environmental concerns.

Resource Conservation and Recovery Act (RCRA), 42 U.S. Code §6901 *et seq.* (1976): The Act controls and regulates the generation, treatment, transportation, storage and disposal of solid and hazardous wastes. Provisions include the management, replacement and monitoring of underground storage tanks. The applicability of federal, state and local laws to solid waste management and recycling are found in the Act.

Oil Pollution Act, 1990, 33 U.S. Code §2702 to §2761: The Act strengthened the EPA's ability to prevent and respond to catastrophic oil spills. A trust fund financed by a tax on oil is available to clean up spills when the responsible party is incapable or unwilling to do so. It requires plans to be submitted on how storage facilities and vessels will respond to large discharges. It requires the development of Area Contingency Plans to prepare and plan for oil spill response on a regional scale.

Pollution Prevention Act 42 U.S. Code §13101 and §13102 *et seq.* (1990): The Act focuses on industry, government and public attention on reducing the amount of pollution through cost effective changes in production, operation and raw materials use. Pollution prevention includes other practices that increase efficiency in the use of energy, water or other natural resources and protect the natural resource base through conservation. Instituting practices include recycling, source reduction and sustainable agriculture.

Toxic Substances Control Act, 15 U.S. Code §2601 *et seq.* (1976): The Act authorized EPA to secure and track information on all new and existing chemical substances currently produced or imported into the United States and to control any of these substances determined to cause an unreasonable risk to public health or the environment.

Environmental Pesticide Control Act 1972 (7 US Code 136-136y, Public Law 92-516, October 21, 1972), 86 Stat 973) as amended: The Act established the EPA program for controlling the sale, distribution and application of pesticides and for penalties through an administrative registration process. The amendments authorized experimental use permits and provided for administrative review of registered pesticides and for penalties for violations. States were authorized to regulate the state or use of any pesticide within a state, provided the regulation does not permit any sale or use prohibited by the Act.

Cultural Resources

Antiquities Act of 1906 (Public Law 59-209): The Antiquities Act provides for the protection of archeological resources on federal lands through criminal sanctions against excavation, injury or destruction of archeological sites without permission.

Archeological and Historic Preservation Act (16 U.S. Code 469-469c), Public Law 86-523, approved June 27, 1960 (74 Stat 220) as amended by Public Law 93-291, approved May 24, 1974, (88 Stat. 174): to carry out policy established by the Historic Site Act, directed federal agencies to notify the Secretary of the Interior whenever they find a Federal or federally assisted, licensed or permitted project that may cause loss or destruction of significant scientific, prehistoric or archeologic data. The Act authorized use of appropriated, donated and/or transferred funds for the recovery, protection and preservation of such data.

Historic Sites, Buildings and Antiquities Act (16 U.S. Code 461-462, 464-467), August 21, 1935 (49 Stat. 666) known as the Historic Sites Act, as amended by Public Law 89-249, approved October 9, 1965, (79 Stat. 971): Established national policy to preserve historic sites and objects of national significance. It provided procedures for designation, acquisition, administration and protection of such sites. The National Historic and Natural landmarks are designated under authority of this Act.

National Historic Preservation Act of 1966 (Public Law 89-665 as amended by Public Law 94-422, Public Law 94-458, and Public Law 96-515): The National Historic Preservation Act is the basic federal mandate for managing and protecting historic properties. Section 106 require federal agencies to account for the effects of their actions on historic properties on public and private lands. It allows the public, the State Historic Preservation Officer and the President's Advisory Council on Historic Preservation to comment on federal undertakings before authorization. Section 110 requires agencies to systematically inventory all lands for historic properties and protect them for active management. The 1992 Amendments directs agencies to account for the effects of proposed activities on traditional cultural properties associated with Native Americans, ranching communities and other traditional lifeways. Code 36 of Federal Regulations 800 revised July 1999 requires consultation with Tribal Historic Preservation Officers in the determination of significant Traditional Cultural Places and the affects of federally funded actions upon them.

American Indian Religious Freedom Act of 1978 (Public Law 95-341): The American Indian Religious Freedom Act requires federal agencies and agencies receiving federally funds to consider the effect of their policies on Native American traditional beliefs.

Native American Graves Protection and Repatriation Act (Public Law 101-106): Establishes requirements for the treatment of Native American human remains and sacred or cultural objects found on federal land.

Archeological Resources Protection Act of 1979 (Public Law 95-96): The Act established detailed requirements for issuance of permits for any excavation for or removal of archeological resources from Federal or Indian lands. It also established civil and criminal penalties for the unauthorized excavation, removal or damage of any such resources; for any trafficking such resources removed from federal or Indian land in violation of any provision of federal law; and for interstate and foreign commerce in such resources acquired, transported or received in violation of any state or local law.

National Trails System Act (16 U.S. Code 1241-1249) Public Law 90-543, October 2, 1968, (82 Stat. 919): Provided for establishment of National Recreation and National Scenic trails. Public Law 95-625, approved November 10, 1978, (92 Stat. 3511) as amended created a new category of National Historic Trails to closely follow original routes of national historic significance. National Recreation Trails may be established by the Secretaries of Interior or Agriculture on land wholly or partly within their jurisdiction, with the consent of the involved state (s) and other managing agencies, if any. National Scenic and National Historic Trails may only be designated by an Act of Congress.

Cave Resources

The Federal Cave Resources Protection Act of 1988 (FCRPA) Public Law 100-691 (16 U.S.C.4301 et seq.; 102 Stat. 4546): established requirements for the management and protection of caves and their resources on federal lands, including allowing the land managing agencies to withhold the location of caves from the public, and requiring permits for any removal or collecting activities in caves on federal lands.

Geological Hazards

Colorado River Floodway Protection Act, (Public Law 99-450) Oct. 8, 1986 (100 Stat.1129): Established a Colorado River Floodway Area, within which prohibited all new federal funding or financial assistance for any purpose (except for listed exceptions), federal flood insurance for new construction or substantial improvements begun six months after enactment on existing structures, and granting of federal leases (unless the Secretary determines the purpose is consistent with the Act).

Biological Resources

National Environmental Policy Act of 1969 (NEPA) (Public Law 91-190),as amended: Requires that all federal agencies to prepare detailed environmental impact statements for every major federal actions significantly affecting the quality of the human environment. Public Law 94-83, August 9, 1975, 89 Stat 424. clarified the application of NEPA to the preparation of impact statements for projects implemented by states under a system of federal grants.

The Endangered Species Act, 7 U.S. Code §136; 16 U.S. Code §460 et seq.(1973): The Act provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found that are threatened or endangered with extinction. The act prohibits the taking of species listed as threatened or endangered, either directly or indirectly, through habitat loss or modification. The Department of Interior maintains the list of endangered and threatened species. This prohibition applies to all activities regardless of land ownership.

Environmental Element

Sikes Act, (Public Law 86-797) Sept. 15, 1960 (16 U.S. Code 670 a-670o, 74 Stat. 1052): provides for cooperation by the Departments of the Interior and Department of Defense with State agencies in planning, development and maintenance of fish and wildlife resources on military reservations throughout the United States. Amended August 8, 1968, (P.L. 90-465, 82 Stat 661) authorizes a program for development of outdoor recreation facilities. Amended Public Law 99-561, approved October 27, 1986 (100 Stat. 3149) requires Secretary of each military department to use trained professionals to manage the wildlife and fishery resources under their jurisdiction and requires federal and state fish and wildlife agencies be given priority in management of fish and wildlife activities on military reservations.

Amended (Public Law 105-85) November 18, 1997 (11 Stat.2017, 2018, 2020, 2022): The Act authorized the preparation of an Integrated Natural Resources Management Plan (INRMP) to provide for sustainable use by the public of natural resources, to the extent when the use is not consistent with the needs of fish and wildlife resources.

Federal Noxious Weed Act (Public Law 93-629) (7 U.S. Code 2801 et. seq.; 88 Stat 2148), enacted January 3, 1975: established a Federal program to control the spread of noxious weeds. The law provides for the inspection, seizure and destruction of infested products and to quarantine areas to prevent the spread of weeds. Law provides for authorization of cooperation of federal, state and local agencies, farmers associations and private individuals in measures to control, eradicate or prevent or retard the spread of weeds.

Migratory Bird Treaty Act, (Public Law 86-732) (1960): The Act is an international treaty that prohibits the taking of any migratory bird without permit or authorization. This prohibition applies to all activities regardless of land ownership.

Fish and Wildlife Coordination Act, 16 U.S. Code 661-667e, March 10,1934, as amended 1946,1958,1978, and 1995: The purpose of the Act is for the development and implementation of conservation plans and programs, protection and management for non-game fish and wildlife, including migratory non-game birds.

Executive Order 13112, Invasive Species, February 3, 1999: The Act requires all agencies to take action to prevent the introduction of invasive species, detect and control invasive species populations, monitor invasive species, provide for restoration of native species, conduct research on invasive species, develop technologies to prevent the introduction of invasive species and promote public education.

Bald Eagle Protection Act of 1940, (16 U.S. Code 668-668d, 54 Stat.250) as amended June 8, 1940, as amended by Public Law 86-70 (73 Stat 143) June 25, 1959; Public Law 87-884 (76 Stat. 1346) October 24, 1962; P.L. 92-535 86-1064) October 23, 1972; and Public Law 95-616 (92 Stat. 3114) November 8, 1978: This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act.

The 1982 amendment authorizes the Secretary of the Interior to permit the taking of golden eagle nests that interfere with resource development or recovery operations. A 1994 Memorandum(59 F.R. 22953, April 29, 1994) from President William J. Clinton to the heads of executive agencies and departments sets out policy concerning collection and distribution of eagle feathers for Native American religious purposes.

Wild Horses and Burros

Wild Free-Roaming Horses and Burros Act of 1971, Public Law 92-195, as amended by P.L. 94-579 (1978): This act protects wild free roaming horses and burros, directing the BLM and Forest Service to manage such animals on public lands under their jurisdiction.

Environmental Land Use Designations

Wilderness Act Public Law 88-577 (16 USC 1131-1136) §1133, approved September 3, 1964. The Act established a national wilderness preservation system to preserve federally owned lands designated by Congress as "wilderness areas" to protect, preserve and manage its natural conditions so that present and future generations may benefit.

Human Impacts

Freedom of Information Act 5 U.S. Code 552; 88 Stat. §1561 provides for any member of the public, American citizen and non-citizen alike to obtain records created and maintained by all agencies of the executive branch of the United States. Access to paper documents, tapes, films and other materials created by the agency as a part of its official responsibilities.

Electronic Freedom of Information Act 5 U.S. Code §231, 110 Stat 2422, October 2, 1996: Provided for the expansion of the FOI act to include a record of electronically created documents and information, including computer databases, electronic documents, word processing documents and e-mail.

Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations: The goal of environmental justice is to promote fair treatment and equal protection of all people, regardless of their race, culture and/or income status so that they can live in a safe, healthy and clean communities.

Emergency Planning and Community Right to Know Act (EPCRA) 42 U.S. Code §11001 et seq. (1986): The law was designated to help local communities protect public health, safety and the environment from chemical hazards. The Toxic Release Inventory (TRI) is mandated by a provision of the EPCRA, which requires specified industries to report releases of more than 650 chemicals and chemical categories to air, land and water. The purpose is to give citizens information about chemicals being used, processed, manufactured or released from facilities in their communities. The act was amended in 1999 to include mining industry.

Environmental Element

Occupational Safety and Health Act 29 U.S. §Code 651 *et seq.* (1970): The Act was to ensure worker and workplace safety. To make sure that employers provide workers a place of employment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress or unsanitary conditions. The Act created the National Institute for Occupational Safety and Health (NIOSH) that established standards for workplace safety.

Civil Rights Act of 1964, Title VII, 42 US Code Sec. 2000e Public Law 88-352 as amended. The law provides that no person on the basis of race, color , or national origin shall be excluded from participation, denied program benefits or subjected to discrimination.

7.8 Soils Types, Acreage & Shrink-Swell Potential

Shrink-Swell Potential: The shrinking of soil when dry and the swelling when wet (Soil Conservation Service).

Soil Type	Acreage	Shrink-Swell Potential
Antho sandy loam	16,990	Low
Antho fine sandy loam	4,105	Low
Carrizo very gravelly sand	43,177	Low
Cheroni-Rock outcrop complex	16,845	Low
Dateland loamy fine sand	12,491	Low
Dateland fine sandy loam	7,037	Low
Gachado very gravelly loam	8,496	Low - Moderate
Gadsden clay	21,326	High
Gilman loam	1,213	Low
Glenbar silty clay loam	14,938	Moderate
Harqua-Tremont complex	115,695	Low - Moderate
Holtville clay	25,060	Low - High
Indio silt loam	76,051	Low
Indio silt loam, saline	10,149	Low
Indio silt loam, strongly saline	5,722	Low
Indio-Lagunita-Ripley Complex	54,577	Low
Kofa clay	9,016	Low - High
Lagunita loamy sand	10,551	Low
Lagunita silt loam	2,228	Low
Laposa-Rock outcrop 15- 75% slopes	101,914	Low
Ligurta-Cristobal complex 2-6 % slopes	201,384	Low-Moderate
Pits, barrow	1,079	Low
Pits, gravel	149	Low
Ripley silt loam	14,285	Low
Rositas sand	53,135	Low
Rositas-Ligurta complex 2-6 % slopes	18,244	Low
Salorthids, nearly level	2,434	Low
Superstition sand	42,440	Low
Superstition complex	2,433	Low-High
Torrithents-Torrifluvents complex 1-50 % slopes	26,717	Variable Low-High
Tremant-Rositas complex	52,581	Low-Moderate
Vint loamy fine sand	5,714	Low
Wellton loamy fine sand	16,542	Low
Wellton-Dateland-Rositas complex	7,802	Low

Source:

Soil Survey of Yuma-Wellton Area, December 1980. United States Department of Agriculture Soil Conservation Service.